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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,449	08/13/2001	James Lucas	3552-0107P	4275
2292	7590	11/02/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			CHORBAJI, MONZER R	
			ART UNIT	PAPER NUMBER

1744

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,449

Applicant(s)

LUCAS ET AL.

Examiner

MONZER R. CHORBAJI

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-65 and 68-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-65 and 68-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This non-final action is in response to the amendment received on 08/08/2006

Claim Objections

1. Claim 54 is objected to because of the following informalities: Please delete the phrase "either of" in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 48-55, 59-65 and 68-71 are rejected under 35 U.S.C. 102(b) as being anticipated by the english translation of Masaaki (JP 61-046290).

Regarding claim 48, Masaaki discloses an apparatus for sterilizing city water (page 3) that includes the following: UV lamp (figure 4:13, 16, 17, 18 and pages 8-9), microwave energy source (figure 4:21), a waveguide being UV transparent and wholly surrounding the UV lamp (figure 4:32 and page 11), waveguide is provided with a blocking end flange (figure 4:20) and a housing having inlet and outlet (figure 4:1, 5 and 6). Note that Masaaki waveguide is capable of guiding microwave energy originated from the microwave source to the UV lamp by enabling UV light to pass through it. See MPEP 2114.

With respect to claims 49-55, 59-65 and 68-71, Masaaki discloses the following: UV lamp has no electrode (page 10), element in vapor form and being mercury (page

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8), the apparatus has a wavelength of 254 nm (page 12), waveguide controls the flow of microwave energy (waveguide 32 of figure 4 controls the passage of UV light through its walls), waveguide blocks the flow of microwave energy (the bottom surface of the waveguide 32 in touch with wall 3, blocks the flow of microwave energy), waveguide is made up of UV-transparent plastic material (page 11), UV lamp has an elongated form (tube 17 in figure 4 has an elongated shape), transparent waveguide has a cylindrical form (tube 32 in figure 4 has a cylindrical shape), UV lamp (figure 4:13, 16, 17 and 18) has an operating temperature of less than 70 degrees Celsius (page 12), microwave energy source includes a magnetron (figure 4:21 and page 8), a pathguide that defines a linear or non-linear paths (figure 4:22 and 24), fluid includes water (bottom of page 12 to top of page 13), the use of a pump (figure 4:35) and UV source sterilizes sewage (page 13).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
7. Claims 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over the english translation of Masaaki (JP 61-046290) as applied to claim 48 and further in view of Spero et al (U.S.P.N. 3,911,318).

Regarding claims 56-58, Masaaki fails to teach that the waveguide includes a conducting material and the waveguide includes a conducting mesh, which is made from copper. Spero teaches that the waveguide includes a conducting material (figure 2, 25 and col.9, lines 24-31) and that the waveguide includes a conducting mesh (figure 2, 25), which is made from copper (col.9, line 27). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Masaaki device by surrounding the waveguide with a copper mesh as taught by Spero since the copper mesh serves to prevent microwave radiation leakage outside its cylindrical volume (Spero, col.9, lines 27-29).

Remarks

8. In this non-final action, a complete translation of Masaaki document is provided for Applicant's evaluation. This action is non-final; since upon examining the now available complete disclosure of Masaaki, it was determined that UV lamp is made up of structure 13, 16, 17 and 18. Also, the 112, paragraph II rejection for claim 55 in action dated 06/01/2006 has been withdrawn.

Response to Arguments

9. Applicant's arguments with respect to claims 48-65 and 68-71 have been considered but are moot in view of the new ground(s) of rejection.

On page 7 of the Remarks section, Applicant argues that the UV lamp of Masaaki includes 13, 16, 17 and 18. Therefore, upon evaluation of the english translation of Masaaki, figure 4 discloses a UV lamp made up of structures 13, 16, 17 and 18.

On page 7 of the Remarks section, Applicant argues that waveguide 22 in combination with coaxial cable 24 and antenna 13 are the only structures that have waveguide capabilities. The examiner disagrees since throughout the specification waveguide represents outer walls surrounding UV lamp and is made up of quartz. For example, see page 4 of the disclosure. In addition, the examiner is not limited to the specifications of structures named by Masaaki, i.e., 22 being a waveguide. Structure 32 in figure 4 of Masaaki is a waveguide that is UV transparent and wholly surrounds the UV lamp made up of structures 13, 16, 17 and 18 of figure 4.


Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 9:00-5:30.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLADYS J. CORCORAN can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRC


GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER